DOCUMENT RESUME

ED 244 500 EC 162 820

AUTHOR Morgan, Daniel; And Others
TITLE Teaching Behaviorally Disordered Students to Increase Teacher Attention in Mainstreamed Classrooms. Final Report.
INSTITUTION Utah Univ., Salt Lake City. Dept. of Special Education.
SPONS AGENCY Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE 81
GRANT G007902249
NOTE 23p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Disorders; *Behavior Modification; Elementary Education; Helping Relationship; Mainstreaming; *Positive Reinforcement; *Student Teacher Relationship; *Teacher Response; Training Methods

ABSTRACT

The study investigated the efficacy of training three behaviorally disordered elementary grade students to recruit reinforcement and assistance from teachers. The study also investigated the effect of systematically fading external experimenter reinforcement of students for prompting and praising teachers in the regular classroom. The three subjects were systematically trained to prompt teachers for help, praise teachers after receiving help, and prompt teachers for approval on their academic and social performance. Results indicated that all three Ss were able to modify the amount of teacher help they received in the regular classroom. After systematically fading experimenter reinforcement of students, both student and teacher behaviors were maintained over baseline levels. (Author/DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED244500

FINAL REPORT

Teaching Behaviorally Disordered Students to Increase Teacher Attention in Mainstreamed Classrooms

Principal Investigator:
Daniel Morgan, Ph.D.

K. Richard Young, Ph.D.

Student Researcher:
Stuart Goldstein, M.S.

A research project funded by Research Projects Branch,
Office of Special Education (G007902249)

Utah State University
Department of Special Education
1981

EC 160820

ABSTRACT

The purpose of this study was to substantiate the findings of previous research regarding the efficacy of training behaviorally disordered students to recruit reinforcement and assistance from teachers. This study extended those findings by investigating the effect of systematically fading external experimenter reinforcement of students for prompting and praising teachers in the regular classroom. Utilizing a multiple baseline design across subjects, three behaviorally disordered students were systematically trained to prompt teachers for help, praise teachers after receiving help, and prompt teachers for approval on their academic and social performance. Results indicated that all three subjects were able to modify the amount of teacher help they received in the regular classroom. After experimental interventions were removed, both student and teacher behaviors were maintained over baseline levels.

INTRODUCTION

Since the implementation of Public Law 94-142, public schools have been required to provide educational services to handicapped children in the least restrictive environment. One way of implementing this requirement is to place handicapped children in regular classroom settings once specific academic and/or behavioral deficits have been remediated through intervention in a special education program. However, one of the major criticisms of the interventions attempted in special education classrooms has been that the students' newly learned behaviors tend not to transfer to different times, teachers, and settings, such as the regular classroom (Kazdin, 1975; Russell, 1974). Therefore, a critical goal for special education programs is to implement intervention programs which will facilitate the transfer of improved behavior to a regular classroom setting.

Stokes and Baer (1977) suggested that one of the most dependable methods for transferring behavioral control from special settings to more natural ones (e.g., regular classrooms) is to operate the special training environment in a manner that closely represents the natural environment. In special education, generalization would then be greatly facilitated by placing children in natural environmental situations (e.g., regular classrooms). However, many regular classroom environments contain such low rates of reinforcement that appropriate academic and/or social behaviors of mainstreamed handicapped students cannot be sustained (White, 1975). This is significant when reinforcement is not applied to those students for whom it is most crucial; i.e., those who are

expected to transfer and generalize behaviors from the special education classroom to the regular class setting.

One approach used to address this problem has been to develop procedures to teach students to increase levels of teacher praise and attention they receive in the regular classroom in order to facilitate the transfer and maintenance of the academic and social behaviors learned in the special education classroom. Preschoolers (Stokes, Fowler, & Baer, 1978), elementary-age students (Sherman & Cormier, 1974; Cantor & Gelfand, 1977), adolescents (Polristock & Greer, 1977; Graubard, Rosenberg, & Miller, 1971) and adults (Seymour & Stokes, 1976) have all been taught to "recruit" positive reinforcement and attention from their teachers or supervisors.

Although these studies differ across subjects and settings, they share some common attributes. First, and perhaps most important, the experimenters first taught students behaviors that recruited reinforcement and positive attention from teachers (e.g., paying attention, working hard, following directions). Students were taught how to increase teacher attention, rates of praise, and to decrease teacher negative comments by shaping appropriate classroom behavior, prompting skills, and praising skills through role playing, modeling, and repeated practice of the desired behaviors.

The second attribute common to all of the studies was that some form of reinforcement (e.g., social praise, tokens) was provided by experimenters to students contingent upon changes in student behavior toward their teachers. However, these studies

did not determine if student praising and cueing was maintained by recruited teacher reinforcement in the absence of experimentally controlled reinforcement of students for praising and cueing. In other words, after successful experimental intervention, are positive changes in student and teacher behavior maintained over time by teacher responses?

The purpose of the present study was to substantiate the findings of previous studies regarding the efficacy of training students to recruit reinforcement and assistance from teachers and to extend those findings by investigating the effect of systematically fading external experimenter reinforcement of students for prompting and praising teachers in the regular classroom.

METHODS

Subjects and Setting

Three students who were receiving services in a self-contained special education classroom for the behaviorally disordered at the Edith Bowen Elementary School at Utah State University were selected to participate in the study. Subjects were selected on the basis of their behavioral interactions with their teachers in the regular classroom. The subjects were observed for one-half hour on four separate occasions and were selected because they emitted low frequencies of prompting for help, prompting for approval, and positive praise statements toward their teachers.

The subjects were three males of average intelligence ranging in age from 10 to 12 years old. They had been referred to the special education class because of disruptive behavior, aggres-

sion, and an inability to interact appropriately with peers and teachers. Academically, Subject 1 was functioning at or above grade level in all subject areas. Subjects 2 and 3 were functioning two years below grade level in math and reading. It should be noted that Subject 3 was included in the study after the eleventh session because a previously selected subject was unable to successfully perform the academic tasks required of him in the regular classroom and had to be terminated from the study.

The study was carried out in the regular 4th and 6th grade classes at the Edith Bowen School. The classroom teachers received no special training or information regarding the purpose of the study.

Procedure

Data Collection. Each of the dependent variables (student behaviors and teacher behaviors) were operationally defined. "Recruiting or prompting for help" was operationally defined as those verbal statements which included a request for assistance in completing a task. Included in this category were statements such as "What do I do now?," "Show me how to do this?", and "Would you please repeat that direction?".

"Recruiting or prompting for approval" was defined as a request for teacher feedback on the quality of the student's performance. Prompting for approval was subcategorized into prompts for approval on academic work or prompts for approval on behavior. Examples of prompts for approval on behavioral performance included "Did I sit nicely?", "I didn't hit anybody today!", "I tried hard to pay attention".

"Student positive comments" directed toward the teacher were defined as verbal statements of gratitude of praise such as, "Thank you for the help", or "You are a good teacher".

"Teacher positive consequences" were operationally defined as statements of verbal praise or encouragement which were directed toward the target student (e.g., nice job, good work, I like the way you're doing your assignment). Excluded from this category were statements that merely indicated that the child's response was correct or acceptable (e.g., o.k., that's correct).

"Teacher helping" was defined as any behavior that provided the child with feedback that was intended to help solve the problem at hand. A wide variety of behaviors were classified into the teacher helping category (e.g., the teacher gives the correct answer, the teacher repeats the question, the teacher asks a new question related to the problem.)

Observation System. A 10-second interval data recording system was utilized to collect data on subject and teacher performance. Student and teacher behaviors were coded in the following manner:

PH = Student prompts the teacher for help
PA_a = Student prompts the teacher for approval on behavior
PA_b = Student prompts the teacher for approval on academics
R^+S = Student praises the teacher
TH = Teacher help
T = Teacher reinforces student

Observation periods were 30 minutes in duration. The observers used stopwatches to measure the 10-second intervals. If any coded behavior occurred within the 10-second interval, it was scored only once in that interval.

Four undergraduate students were recruited as observers. Pre-classroom training consisted of three steps: (1) orienting the observers to the data collection procedures, (2) explanation of the target behaviors, codes, and the observation sheet, and (3) simulated practices in using the observational system via the scoring of videtapes. The videotapes contained contrived behavioral samples and actual examples of teachers instructing children. Data from the videotapes were carefully calculated by the experimenters for use as a standard against which the data collected by the observers from the training tapes could be compared.

After the observers exceeded 75% agreement with the predetermined standard when scoring the videotapes, they spent three days collecting data in the same classrooms they were to be observing in during the study. This period of time served the dual purpose of providing classroom training for the observers and providing time for adaptating to the observers' presence.

Reliability. The percentage agreement method was used to compute interobserver reliability. The percentage of agreement was calculated by dividing the number of intervals the observers agreed in their coding of behaviors by the sum of these agreements plus disagreements and multiplied by 100.

Reliability estimates were collected throughout all phases of the study. Percent agreements ranged from 79% to 86% with a mean of 81%. During condition F_I the observers were again checked using a videotape with a predetermined standard +0 guard against observer drift (Kazdin, 1973). The agreements during the check for observer drift varied from 75% to 95% with a mean of 84%.

Experimental Design. A multiple baseline design across subjects was employed to determine if the experimental treatment was effective in teaching the subjects to modify teacher help and praise in the regular classroom.

Baseline. Baseline data were obtained in the regular classroom on both teachers and subjects. The subjects remained in the regular classroom for part of the day (one hour on the average) throughout the entire length of the study. At the time the study began, the subjects had been in the regular classroom for at least three weeks prior to collection of the baseline data.

Training. The training procedures used with the subjects consisted of three phases, each phase focused on one aspect of training. The length of each training session was approximately 15 minutes, training lasted for nine days. The basic format contained the following training procedures: (1) the teacher modeled examples and nonexamples of the appropriate student and teacher behavior, (2) subjects role-played the selected behaviors with the experimenter, and (3) students practiced the behavior during normal instructional activities within the special education classroom.

Phase I. Phase I consisted of training in prompting for help. The students were first taught to identify those situations in which prompting for help was appropriate (e.g., not understanding assignments, problems too difficult). Next, they were given specific instructions on how to prompt for help with an emphasis on their asking "nicely." During treatment phase I, no attempt was made to reinforce or give feedback on prompting for help in

the regular classroom.

Phase II. In Phase II, the subjects were first taught to praise the teacher after receiving help. Also, reinforcement was initiated for subjects prompting for help in the regular classroom (the Phase I behavior). A contingency contract was designed which identified the number of times the student had to prompt for help before the child could engage in a selected activity (i.e., playing a game with a friend, playing with pet gerbils, walking around campus). The experimenter also praised the student verbally when giving feedback on the student's performance. Additional feedback consisted of the special education teacher showing the student his observation sheets and pointing out those instances when the behavior occurred. At this time, the behavior was practiced if the student had questions or did not meet the specified criteria in the contract.

Phase III. Phase III involved training in prompting for approval on academic and social behavior performance. In this phase, the subjects were taught to prompt for approval during the middle and at the end of a lesson and to thank the teacher after receiving approval. At the start of this phase, the contingency contract was altered. The contract now required the subjects to prompt for help and praise the teacher after receiving help in the regular class. Feedback and rehearsal procedures were continued.

Phase IV - Full Program. After the completion of training on each of the above components, the full program was put into effect in the regular classroom. The students were required to prompt for help, praise teachers after receiving help, prompt teachers for

approval, and thank the teachers for approval. The performance criteria for earning special activities were again specified in a contingency contract. Feedback and rehearsal sessions were also continued. The full program was in effect for four days, then systematic withdrawal of reinforcement was initiated.

Fading Condition I. In fading condition I, the subjects were told that it would be harder to earn special activities. It was explained to the subjects that they had to prompt and praise the teacher for three days before special activities could be earned. Feedback was continued, and rehearsals were no longer conducted.

Fading Condition II. In fading condition II, the subjects were told that they would no longer earn special activities. It was explained to the subjects that they should still prompt and praise the teacher if they wanted to continue getting help. Daily feedback was continued, and positive comments were provided for appropriate performance.

Maintenance Phase. During the maintenance phase, no feedback was given to the students on their performance. They were simply told at the end of fading condition II that they were to use the techniques if they wanted to insure their success at getting teacher help in the regular class. Follow-up data were collected on Subject I once each week for three consecutive weeks, and once each week for two consecutive weeks for Subject III. It was not possible to collect maintenance data on Subject Ii due to his excessive absences during this period of time.

RESULTS

Figure 1 displays the data for prompting for help, praising teacher, and prompting for approval for each subject during the daily 30 minute observation sessions. The data are presented as the frequency of 10 second intervals in which the target behaviors occurred. The mean for each experimental phase is indicated by a horizontal drawn through the phase.

Insert Fig. 1 About Here

Figure 2 displays the frequency of intervals in which teacher help was scored for each 30-minute observation. Although the teacher help data varies greatly, a relationship between student prompting and praising and teacher help is evident. When the subjects increased the frequencies at which they prompted and praised their teachers, the amount of teacher help was also increased.

Insert Fig. 2 About Here

Table 1 contains the mean frequency of intervals for each experimental condition in which teacher praise was scored. The mean frequency of intervals in which teacher praise was scored was greater in the baseline condition than any of the other experimental phases for Subject I's teacher. Conversely, Subject III's teacher exceeded the baseline mean in every phase with the largest mean occurring in the maintenance phase. Subject II's teacher exceeded the baseline mean in phases PI, PII, PIV, and FII.

Figure 1

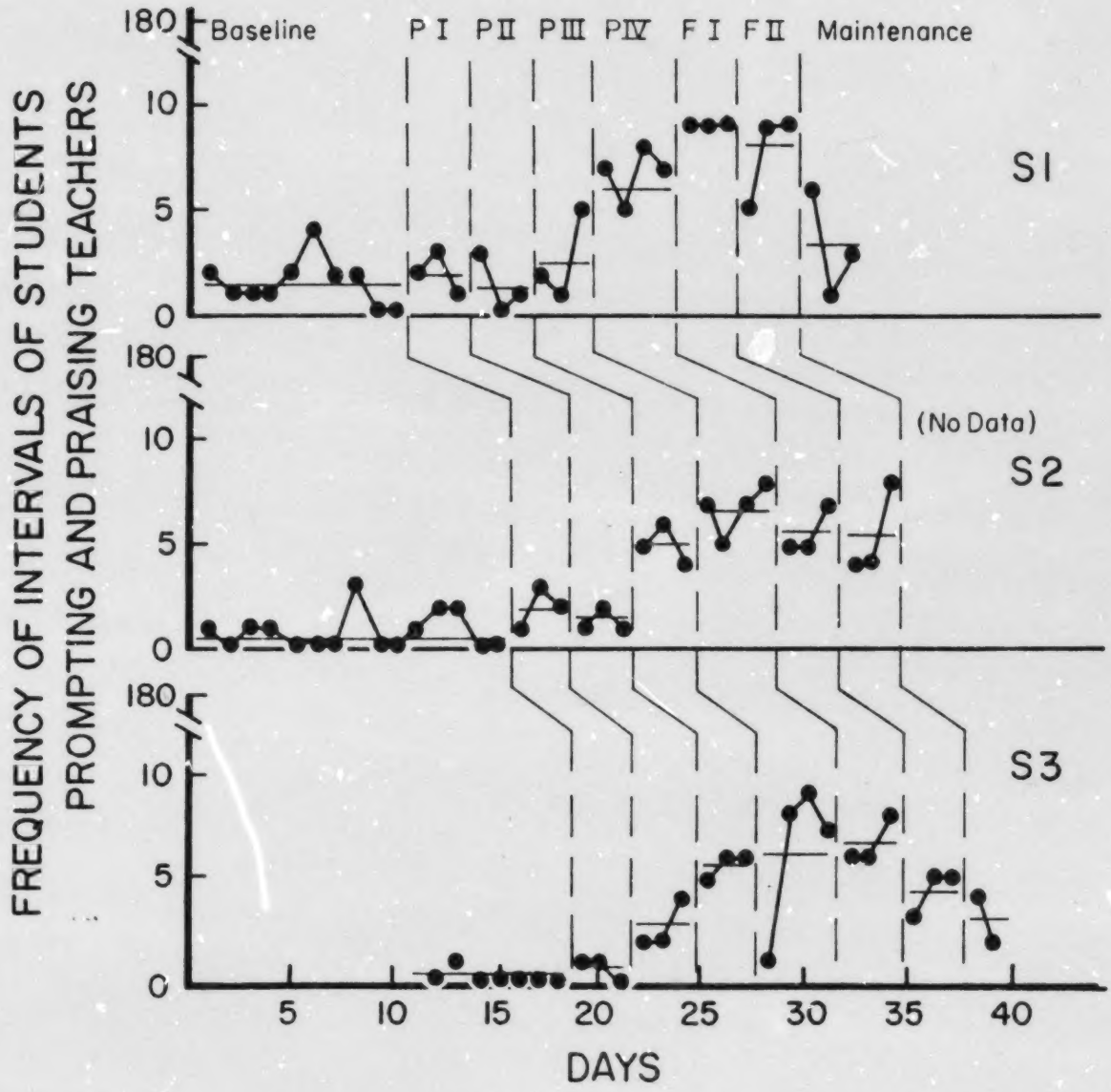

Fig. 1 The frequency of 10-second intervals during which subjects prompted teachers for help and/or approval and praised teachers for their assistance. The mean level of performance for each phase is indicated by a horizontal line.

Figure 2

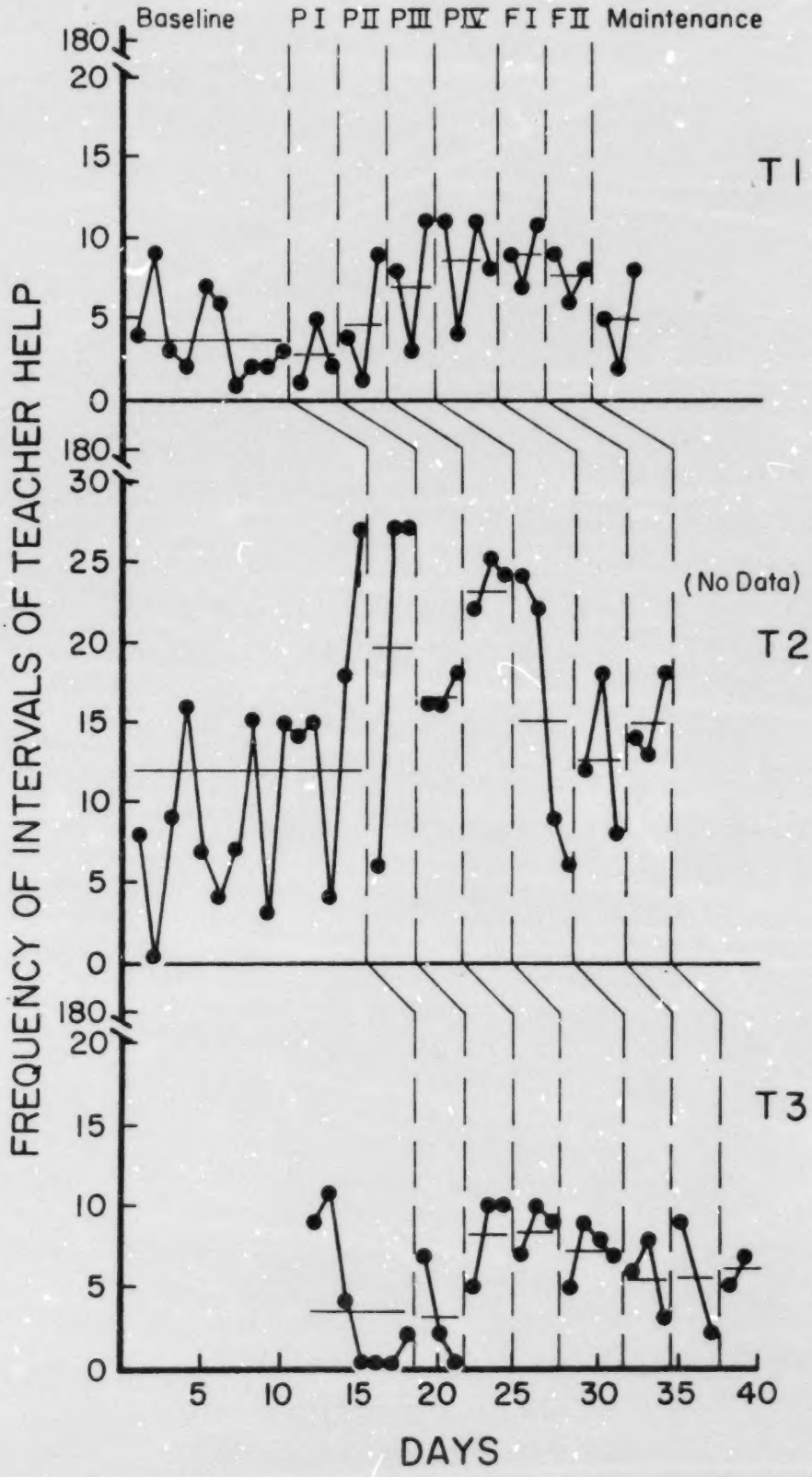

Fig. 2 The frequency of 10-second intervals during which teachers provide individual help for the subjects. The mean level of performance for each phase is indicated by a horizontal line.

Table 1

The Mean Frequency of Intervals for Each Experimental Condition in Which Teacher Praise was Scored

Subject	Baseline	PI	PII	PIII	PIV	FI	FII	Maintenance
Subject I's teacher	1.6	.3	.3	0	1.3	1.0	.3	1.0
Subject II's teacher	1.9	3.7	3.4	1.7	3.0	1.7	2.0	No data
Subject III's teacher	.4	1.0	1.0	1.7	1.8	1.3	1.0	1.0

DISCUSSION

When feedback, social praise, and reinforcement were systematically administered after training the subjects to prompt for help, praise teachers after receiving help, and prompt teachers for approval, all three subjects increased the frequency of intervals in which they engaged in these behaviors. This is clearly illustrated in Figure 1, which shows a gradual increase between training and treatment phases for all three subjects. These results are similar to the findings of Stokes, Fowler, and Baer (1978) regarding training students to prompt teachers for help and approval.

In fading condition FII, when specific activity reinforcers were removed for prompting and praising the teacher, all three subjects showed a slight decrease in their respective phase means, when compared with the means achieved in fading condition FI. It may be that the special activities used as reinforcers during the

training phases were more powerful than social praise and feedback in maintaining prompting and praising behaviors.

When social praise and feedback were discontinued, as was the case in the maintenance phase, data for Subjects I and III decreased. Perhaps performance did not maintain because at high levels reinforcement procedures were fading so quickly (the full program was in effect only four days). However, the means in the maintenance and fading phases were higher than the baseline phase means for both Subjects I and III. This indicates that another variable, perhaps teacher help, may have served to maintain prompting and praising behavior. When the subjects prompted and praised their teachers, they were able to increase the amount of teacher help they received. This also supports the findings of other researchers (Stokes, Fowler, & Baer, 1978; Seymour & Stokes, 1976; Cantor & Gelfand, 1977; Graubard, Rosenberg, & Miller, 1971).

The mean frequency of teacher help during the maintenance phase remained higher than teacher help during the baseline condition. Subjects I and III received on the average more help from the teacher in the maintenance phase than they did in the baseline. Since both Subjects I and III were prompting and praising the teacher in the maintenance phase at frequencies greater than those in the baseline phase, the assumption can be made that a reciprocal interaction was established between the students' behavior (i.e., prompting and praising) and teacher help.

The data summarized in Table 1 indicate that training students to prompt for approval had little effect on the teachers'

praise rates. This does not support the findings of previous studies. One possible explanation for such a discrepancy could be that in the present study straightforward affirmations of correctness were not scored as praise statements.

There were some limiting factors within this study that should be noted. First, social validation procedures need to be carefully considered when determining what teachers consider to be reasonable levels of student prompting for help and approval. For some teachers, four prompts for help in 30 minutes may be interpreted as a sign that the child is not paying attention and this may annoy the teacher. Conversely, another teacher may interpret prompting as a sign of interest. In either case, appropriate rates of prompting should be determined by first checking with those teachers who will be involved with children and then teaching children to prompt at those levels.

A second factor which should be taken into consideration concerns the difficulty of the academic requirements in the regular classroom. When teachers present new material to students, it would be expected that students would have more reason to prompt for help. This relates directly to the present study in that it may account for the variability in both student and teacher behaviors. It was reported by all students that it was not always necessary to prompt the teacher for help, especially when the material was of low difficulty and probability of success was high. Since it is more desirable to provide students with task requirements promising a high probability of success, it may be that less teacher help would be required. However, the need for

teacher approval would not diminish.

Another issue related to the difficulty of the instructional materials centers around proper instructional programming for the student. If the student's level of academic capabilities is below the level at which he is expected to perform, failure is certain. That is what happened to the student that Subject III replaced the study. This student's math skills were significantly below the level at which the teacher expected him to perform. Consequently, he was unable to complete the assignments successfully, and therefore, was not successfully mainstreamed.

While changes in the frequency of student and teacher behaviors were of practical significance, the percent of change from baseline to treatment might be considered minimal (e.g., 1% to 5%). However, the teacher needs to be aware of the fact that in large classrooms individual teacher help and approval is frequently minimal (Chow, 1981). A sample taken at the Edith Bowen School under the same conditions as the experiment was conducted indicatetd that nonhandicapped students were receiving help and approval less than 1% of the time. Small increases in the amount of teacher help or approval a student receives are significant. The number of students within a class has an important bearing on the amount of help a child will receive. That is, if instructional groups are large, it would be expected that each child would receive less help than if the class was small. Therefore, it may often be necessary to teach behaviorally disordered students how to appropriately get the help and approval they need.

Maintenance of treatment gains is another essential factor for program success. Researchers need to investigate more closely other procedures which could help maintain treatment gains over time. Training students to prompt and praise and also training teachers to praise students could demonstrate more desirable maintenance of treatment gains. Another possible method for achieving maintenance of treatment gains would be periodic review and rehearsal of student prompting and praising techniques. Spaced practice and reviews (i.e., booster sessions) could serve to establish prompting and praising as a more permanent part of a handicapped student's regular classroom behavior.

The experimental procedures investigated in this study would seem to serve as a potentially useful component of a comprehensive program designed to facilitate the generalization and maintenance of treatment effects from special education to regular classrooms. For example, teaching behaviorally disordered students to recruit teacher assistance and approval could be combined with student self-evaluation (Rhode, Morgan, & Young, in press). The combination of procedures might prove to be more durable than either procedure alone. Reports of teaching students to prompt for help and approval have been available for more than ten years (Graubard et al., 1971), but the procedures do not seem to be commonly used. Teachers of behaviorally disordered students should consider these proven procedures as part of their effort to mainstream their students.

REFERENCES

Baer, D. M., & Wolf, M. M. The entry into natural communities of reinforcement. In R. Ulrich, T. Stachnik & M. Macbry (Eds.), Control of human behavior (Volume II). Glenview, Illinois: Scott, Foresman, 1970.

Baer, D. M., Wolf, M. M., & Risley, T. R. Some current dimensions of applied behavior analysis. Journal of Applied Behavior Analysis, 1968, 1, 91-97.

Cantor, N. L., & Gelfand, D. M. Effects of responsiveness and sex of children on adults' behavior. Child Development, 1977, 48, 232-238.

Chow, S. A study of academic learning time of mainstreamed learning disabled children. Final Report G# 007902007, San Francisco: Far West Laboratory for Educational Research and Development, 1981.

Graubard, P. S., Rosenberg, H., & Miller, M. B. Student applications of behavior modification to teachers and environments or ecological approaches to social deviancy. In E. A. Ramp & B. L. Hopkins (Eds.), A new direction for education behavior analysis, 1971. Lawrence, Kansas: Support and Development Center for Follow Through, 1971.

Kazdin, A. E. Behavior modification in applied settings. Homewood, Illinois: The Doresy Press, 1975.

Polristock, S. R., & Greer, R. D. Remediation of mutually aversive interactions between a problem student and four teachers by training the student in reinforcement techniques. Journal of Applied Behavior Analysis, 1977, 10, 707-716.

Rhode, G., Morgan, D., & Young, K. R. Generalization and maintenance of treatment gains of behaviorslly handicapped students from resource rooms to regular classrooms using self-evaluation procedures. Journal of Applied Behavior Analysis, in press.

Russell, E. W. The power of behavior control: A critique of behavior modification methods. Journal of Clinical Psychology, 1974, 30, 111-136.

Seymour, F. W., & Stokes, T. F. Self-recording in training girls to increase work and evoke staff praise in an institution for offenders. Journal of Applied Behavior Analysis, 1976, 9, 41-54.

Sherman, T. M., & Cormier, W. H. An investigation of the influence of student behavior on teacher behavior. Journal of Applied Behavior Analysis, 1974, 7, 11-21.

Stokes, T. F., & Baer, D. M. An implicit technology of generalization. Journal of Applied Behavior Analysis, 1977, 10, 349-367.

Stokes, T. F., Fowler, S. A., & Baer, D. M. Training preschool children to recruit natural communities of reinforcement. Journal of Applied Behavior Analysis, 1978, 11, 285-303.

White, M. A. Natural rates of teacher approval and disapproval in the classroom. Journal of Applied Behavior Analysis, 1975, 8, 367-372.

AUTHORS' NOTES

The research reported was supported by a grant from the Division of Innovation and Development/Student-Initiated Research Program (Grant No. 007902249). No official endorsement of the methods or findings should be inferred. The authors wish to acknowledge their appreciation for the support and cooperation of the staff at the Edith Bowen Elementary School, Logan, Utah.

Reprints are available through Dr. Daniel P. Morgan and Dr. K. Richard Young, Department of Special Education, Utah State University, Logan, Utah 84322.